NASA/CIAR Workshop - Lateral gene transfer and the origins of eukaryotes
Harrison Hot Springs Resort, B.C., May 5-9, 2004

NASA/CIAR WORKSHOP: MAY 5-9, 2004

Wednesday , May 5	
6:00 PM	**Opening reception**
7:00 PM	**Dinner (buffet-style)**

Thursday, May 6 The extent and significance of lateral (horizontal) gene transfer in the evolution of eukaryotic genomes	
7:30 am	**BREAKFAST**
Morning	**SESSION 1: Does Lateral Transfer Matter in Eukaryotes? (Chair Ford Doolittle)**
9:00 – 9:35	Patrick Keeling 101 flavours of lateral transfer in eukaryotes
9:35 – 10:10	Jeff Palmer Horizontal gene transfer in multicellular eukaryotes, with emphasis on plant mitochondrial genomes
10:10 – 10:50	**COFFEE BREAK**
10:50 – 11:25	John Archibald Lateral gene transfer and the plastid proteome of algae
11:25 – 12:00	Eugene Koonin Possible contributions of horizontal gene transfer to the evolution of complex systems in eukaryotes
12:00 – 1:30	**LUNCH**
Afternoon	**SESSION 2: Potential Impacts of Lateral Transfer (if it matters) (Chair John Archibald)**
1:30 – 2:05	Miklós Müller The "amitochondriates," metabolism and organelles
2:05 – 2:40	Cecilia Alsmark Horizontal gene transfer and the *Entamoeba histolytica* genome
2:40 – 3:15	Andrew Roger Lateral gene transfer in anaerobic protists
3:15 – 4:00	**COFFEE BREAK**
4:00 – 4:35	Yuji Inagaki Lateral transfer of EF-1alpha gene fragment in archaebacteria
4:35 – 5:10	Michael Syvanen Use of distances, not phylogenetic incongruency, to infer horizontal gene transfer events among Eukaryotic lineages
6:00-7:30 pm	**DINNER**
7:30 - 9:30 pm	**POSTER DISPLAYS**

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Friday, May 7 Origin of eukaryotes	
7:30 am	**BREAKFAST**
Morning	**SESSION 3: Much Ado About Chimaeras (Chair Martin Embley)**
9:00 – 9:35	Anthony Poole The origin of mitochondria; can we establish the nature of the host?
9:35 – 10:10	Hyman Hartman The nucleus as endosymbiont - The Chronocyte Hypothesis
10:10 – 10:45	Tokumasa Horiike Origin of eukaryotic cell nuclei by symbiosis of archaea in eubacteria supported by whole protein data analysis
10:45 – 11:25	**COFFEE BREAK**
11:25 – 12:00	Jim Lake Eukaryotic fusion origins?
12:00 – 12:35	Bill Martin What do different chimaeric models predict?
12:45 – 1:30	**LUNCH**
	FREE AFTERNOON
6:00 - 7:00	**DINNER**
Evening	**SESSION 5: The Origin of Eukaryotes in Three Easy Steps (Chair Jim Lake)**
7:00 – 7:35	Peter Gogarten Evolutionary events preceding eukaryotic times: coalescence, ancient duplications, and the nucleocytoplasmic component
7:35 – 8:10	Hervé Philippe Rooting deep phylogenetic trees
8:10 – 8:45	Tom Cavalier-Smith Eukaryote evolution and the structure of the bush of life

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Saturday, May 8 Integration of molecular and non-molecular data	
7:30 am	**BREAKFAST**
Morning	**SESSION 5: What Do the Rocks Tell Us (Chair Brian Leander)**
9:00 – 9:35	Bruce Runnegar Assessing the evidence for the earliest eukaryotes
9:35 – 10:10	Nick Butterfield Proterozoic plants, animals and fungi - reconciling early origins with delayed radiation
10:10 – 10:50	**COFFEE BREAK**
10:50 – 11:25	Susannah Porter Proterozoic Protozoa
12:00 – 1:30	**LUNCH**
Afternoon	**SESSION 6: What Do the Cells Tell Us (Chair Susannah Porter)**
1:30 – 2:05	Brian Leander Ultrastructure as a marker for the history of photosynthesis in eukaryotes
2:05 – 2:40	Dean Jackson Assimilating alien DNA in to the cell nucleus: can nuclear structure define functional compability?
2:40 – 3:15	Beverley Green Mosaic metabolic pathways and genes in transit--insights from the diatom genome
3:15 – 4:00	**COFFEE BREAK**
4:00 – 4:45	**GENERAL DISCUSSION** **(Led by Ford Doolittle, Hyman Hartman, & Bruce Runnegar)**
7:00 PM	**DINNER**

Sunday, May 9
DEPARTURES DAY

7:00 am Breakfast (in Lakeside Café)